

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:

storing at least one key within a tamper detection boundary of a circuit card coupled to a system bus of a host processor;

encrypting, based upon the at least one key, one or more respective portions of write data to generate one or more respective portions of encrypted write data to be stored in one or more locations in a storage coupled to the system bus, the encrypted write data generated by an input/output ("I/O") processor on the circuit card;

generating, based upon the one or more respective portions of the encrypted write data, check data to be stored in the storage; and

selecting the one or more locations so as to permit the one or more respective portions of the encrypted write data to be distributed among two or more storage devices comprised in the storage.

2. (Previously Presented) The method of claim 1, wherein:

the storage comprises a redundant array of independent disks (RAID); and

the check data comprises one of parity data and a copy of the encrypted write data.

3. (Currently amended) The method of claim 1, further comprising:

~~storing the at least one key in memory; and~~

in response to an attempt to tamper with the at least one key, erasing the at least one key from the memory.

4. (Previously Presented) The method of claim 1, further comprising:
determining, based upon one or more credentials, whether to permit execution of one or more operations involving the storage.

5. (Currently Amended) A method comprising:
receiving a read request from a host processor;
retrieving one or more respective portions of [[the]] encrypted data from a plurality of storage devices comprised in [[the]] a storage coupled to the host processor;
and

decrypting, based upon at least one key stored within a tamper detection boundary of an encryption device coupled to the host processor, one or more respective portions of the encrypted read data retrieved from the storage to generate one or more respective portions of read data, the read data generated by an input/output ("I/O") processor located within the tamper detection boundary of the encryption device.

6. (Previously Presented) The method of claim 5, further comprising:
prior to the decrypting of the one or more respective portions of the encrypted data, determining, based upon one or more credentials, whether the request is authorized.

7. (Previously Presented) The method of claim 6, further comprising:

generating the at least one key based upon at least one of one or more tokens and one or more passwords.

8. (Previously Presented) The method of claim 5, wherein:
the storage also stores metadata; and the method further comprises encrypting the metadata based upon the at least one key.

9. (Original) The method of claim 8, wherein: the metadata comprises partition information.

10. (Currently Amended) An apparatus comprising:
circuitry to encrypt, based upon at least one key stored within a tamper detection boundary, one or more respective portions of write data to generate one or more respective portions of encrypted write data to be stored in one or more locations in storage;

the circuitry also being capable of:
generating, based upon the one or more respective portions of the encrypted write data, check data to be stored in the storage; and
selecting the one or more locations so as to permit the one or more respective portions of the encrypted write data to be distributed among two or more storage devices comprised in the storage.

11. (Previously Presented) The apparatus of claim 10, wherein:
the storage comprises a redundant array of independent disks (RAID); and
the check data comprises one of parity data and a copy of the encrypted write data.

12. (Previously Presented) The apparatus of claim 10, wherein:
the circuitry is also capable of storing the at least one key in memory; and
in response to an attempt to tamper with the at least one key, erasing the at least one key from the memory.

13. (Previously Presented) The apparatus of claim 10, wherein:
the circuitry is also capable of determining, based upon one or more credentials, whether to permit execution of one or more operations involving the storage.

14. (Currently Amended) ~~An~~ The apparatus of claim 10, further comprising:
circuitry to receive a read request, retrieve one or more respective portions of the encrypted data from ~~[[a]]~~ the plurality of storage devices comprised in the storage and decrypting, based upon at least one key, one or more respective portions of the encrypted read data retrieved from the storage to generate one or more respective portions of read data.

15. (Previously Presented) The apparatus of claim 14, wherein the circuitry is also capable of:

prior to the decrypting of the one or more respective portions of the encrypted data, determining, based upon one or more credentials, whether the request is authorized.

16. (Previously Presented) The apparatus of claim 15, wherein:

the circuitry is also capable of generating the at least one key based upon at least one of one or more tokens and one or more passwords.

17. (Previously Presented) The apparatus of claim 14, wherein:

the storage also stores metadata; and the circuitry is also capable of encrypting the metadata based upon the at least one key.

18. (Original) The apparatus of claim 17, wherein:

the metadata comprises partition information.

19. (Currently Amended) An article comprising a storage medium having stored therein instructions that when executed by a machine result in the following:

storing at least one key within a tamper detection boundary of a circuit card coupled to a system bus of a host processor;

encrypting, based upon the at least one key, one or more respective portions of write data to generate one or more respective portions of encrypted write data to be

stored in one or more locations in a storage coupled to the system bus, the encrypted write data generated by an input/output ("I/O") processor on the circuit card;

generating, based upon the one or more respective portions of the encrypted write data, check data to be stored in the storage; and

selecting the one or more locations so as to permit the one or more respective portions of the encrypted write data to be distributed among two or more storage devices comprised in the storage.

20. (Previously Presented) The article of claim 19, wherein:
the storage comprises a redundant array of independent disks (RAID); and
the check data comprises one of parity data and a copy of the encrypted write data.

21. (Currently Amended) The article of claim 19, wherein the instructions when executed by the machine also result in:

storing the at least one key in memory; and
in response to an attempt to tamper with the at least one key, erasing the at least one key_ ~~from the memory~~.

22. (Previously Presented) The article of claim 19, wherein the instructions when executed by the machine also result in:

determining, based upon one or more credentials, whether to permit execution of one or more operations involving the storage.

23. (Currently Amended) An article comprising a storage medium having stored therein instructions that when executed by a machine result in the following:

receiving a read request from a host processor;

retrieving one or more respective portions of [[the]] encrypted data from a plurality of storage devices comprised in [[the]] a storage coupled to the host processor;

and

decrypting, based upon at least one key stored within a tamper detection boundary of an encryption device coupled to the host processor, one or more respective portions of the encrypted read data retrieved from the storage to generate one or more respective portions of read data, the read data generated by an input/output processor located within the tamper detection boundary of the encryption device.

24. (Previously Presented) The article of claim 23, wherein the instructions when executed by the machine also result in:

prior to the decrypting of the one or more respective portions of the encrypted data, determining, based upon one or more credentials, whether the request is authorized.

25. (Previously Presented) The article of claim 24, wherein the instructions when executed by the machine also result in:

generating the at least one key based upon at least one of one or more tokens and one or more passwords.

26. (Previously Presented) The article of claim 23, wherein:
the storage also stores metadata; and
the instructions when executed by the machine also result in encrypting the
metadata based upon the at least one key.

27. (Original) The article of claim 26, wherein:
the metadata comprises partition information.

28. (Currently Amended) A system comprising:
a circuit board comprising a circuit card slot and a circuit card that is capable of
being inserted into the circuit card slot, the circuit card comprising circuitry, the circuitry
being capable of encrypting, based upon at least one key, one or more respective
portions of write data to generate one or more respective portions of encrypted write data
to be stored in one or more locations in storage[[]],

wherein the circuitry also ~~being~~ is capable of:

generating, based upon the one or more respective portions of the
encrypted write data, check data to be stored in the storage; and
selecting the one or more locations so as to permit the one or more
respective portions of the encrypted write data to be distributed among
two or more storage devices comprised in the storage[[]],

wherein the circuit comprises:

an input/output (I/O) processor, and

non-volatile memory that is capable of storing the at least one key,
wherein the circuitry is capable of detecting-an attempt to tamper with the
at least one key, and in response to the attempt, erasing the at least one
key from the memory.

29. (Cancelled)

30. (Currently Amended) The system of claim [[29]] 28, wherein[[[:]] the circuit board also comprises;

a host processor coupled to the circuit card slot via a bus[[, and]];

one or more token memories to store one or more tokens; and

additional circuitry to read one or more additional tokens stored in a removable token memory after the removable token memory is inserted into a token reader.

31. – 33. (Cancelled)